REMARKS/ARGUMENTS

In the Office action mailed March 11, 2004, the Examiner rejected claims 1-9 and 13-29 under 35 U.S.C.§102 (e) as being anticipated by Leenders et al. (US 6,383,692). The Office Action indicated that claims 12, 17-19 and 23 are drawn to allowable subject matter. The Examiner also requested Applicants' cooperation in correcting any errors in the specification.

By this paper, Applicants have amended the specification to make minor editorial and typographical corrections. Editorial amendments have been made to claims 1-4, 14, 16, 21 and 24-29. New claim 30 has been added in view of the amendment to claim 1. For the reasons set forth below, the pending claims are believed to be in condition for allowance. Favorable reconsideration of the application in view of the following remarks is respectfully requested.

An essential feature of Applicants' invention is the presence of a thermally-imageable photomask layer which changes permeability to gas, in particular oxygen, upon exposure to radiation, in particular infrared radiation or, alternatively, which has a predetermined range of oxygen permeability. By reason of this feature, oxygen is able to permeate the thermographic layer and inhibit the polymerization of the photopolymerizable layer that occurs during ultraviolet illumination of that layer. After a development step has removed the uncross-linked polymer and the photomask layer, this feature results in a flexographic printing element having printing islands with a very distinctive shape, having sides that are much more vertical than in the prior art. Such printing islands do not wear down as readily in the printing process and can print smaller dots for an extended period. See in particular page 16, line 26 to page 17, line 6 of the specification and Figures 2(d) and (e).

The invention's feature of change in gas or oxygen permeability upon exposure to radiation is specified in each of independent claims 1, 7, 13, 22 and 29. The feature of the thermally imageable photomask having a predetermined range of oxygen permeability is specified in independent claims 15, 20, 24, 25, 27 and 28. In either case, the oxygen permeability characteristics of the invention produce smaller printing islands (indicated by reference number 31 in Figure 2(e)) with improved wear characteristics.

The cited Leenders et al. reference does not disclose or suggest this feature of Applicants' invention. Leenders et al. is directed to a flexographic plate precursor and method of making a

flexographic printing plate that avoids the ablative systems of the prior art, eliminating wet processing to produce a photomask and the generation of debris (column 2, lines 28-31). Leenders et al. states that the flexographic printing plate produces "high quality printed copies" but does not suggest that the printing islands of the plate have any particular configuration or any improved wear characteristics such as those resulting from Applicants' invention.

The Examiner has stated that, given that the material of Leenders et al. appears to comprise the same materials and construction as Applicants' claimed material, it is her position that the material of Leenders et al. would inherently possess or exhibit the oxygen permeability properties specified by Applicants. However, there is no evidence of record that any specific composition of the thermographic layer disclosed in Leenders et al. has any oxygen permeability characteristics as claimed by Applicants. Importantly, Leenders et al. in fact teaches the use of an outer protective layer on the thermographic layer. This protective layer preferably comprises a binder, of which polyvinylalcohol is particularly preferred (column 6, lines 50-67). Moreover, since the protective layer of Leenders et al. is removed with the photopolymer developer liquid (column 7, lines 1-5) it is accordingly present on the thermographic layer during the steps of imagewise irradiation with infrared radiation and flood illumination with ultraviolet radiation. It is well known that polyvinylalcohol has excellent film-forming capabilities and would thus restrict gas permeability into the photopolymerizable layer. Leenders et al. is therefore specifically teaching away from a system in which the oxygen permeability of the thermographic layer is controlled or controllable, or functioning so as to affect the form of the printing islands on the flexographic printing plate. This is in clear contrast to Applicants' system, which specifically requires that gas is able to permeate into the photopolymerizable layer during ultraviolet exposure.

Further, Leenders et al. teaches the use of a barrier layer between the photopolymer layer and the thermographic recording layer. See column 1, lines 4 to 21 and claim 1. Preferred barrier layer polymers include hydroalkylcellulose, polyvinyl alcohol and alkanecarboxylate esters. Leenders et al. teaches that such barrrier layer prevents the diffusion of monomers from the photopolymer layer to the thermographic recording layer. However, layers of such polymers are recognized in the art as being barriers to the transmission of oxygen. Such a layer in the

material of Leenders et al. would inhibit the permeability of oxygen into the photopolymer layer and the material would not have the oxygen permeability properties specified by Applicants. In this respect also, Leenders et al. is teaching directly away from Applicants' system.

Having regard to the outer protective layer and the barrier layer of Leenders' printing element, Leenders et al. does not disclose a printing element or method of making a printing plate having the oxygen-permeability characteristics specified in Applicants' claims. It is requested, therefore, that the Examiner reconsider and withdraw the rejection under 35 U.S.C. §102(e) to Applicants' claims. Applicants respectfully request that a Notice of Allowance be issued. If there are any remaining issues preventing allowance of the pending claims that may be clarified by telephone, the Examiner is requested to call the undersigned.

Respectfully submitted,

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